Amendments to the Claims:

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A semiconductor device structure, comprising:

a substrate defining a substantially horizontal plane;

a source region;

a drain region;

a gate electrode disposed on said substrate and being electrically insulated therefrom, said gate electrode positioned vertically between said source region and said drain region; and

at least one semiconducting nanotube including a first end electrically coupled with said source region, a second end electrically coupled with said drain region, and a channel region extending vertically through said gate electrode between said source region and said drain region, said channel region being electrically insulated from said gate electrode, ~~said channel region having a vertical dimension approximately equal to a length of said at least one semiconducting nanotube,~~ and said gate electrode ~~having a vertical dimension approximately equal to a length of~~ configured to receive a control voltage effective to regulate current flow through said channel region of said at least one semiconducting nanotube between said source region and said drain region.

2. (Original) The semiconductor device structure of claim 1 wherein said source is composed of a catalyst material effective for growing said at least one semiconducting nanotube.

3. (Previously Presented) The semiconductor device structure of claim 1 wherein said drain is composed of a catalyst material effective for growing said at least one semiconducting nanotube.

4. (Original) The semiconductor device structure of claim 1 further comprising:

an insulating layer disposed between said drain and said gate electrode for electrically isolating said drain from said gate electrode.

5. (Original) The semiconductor device structure of claim 1 further comprising:

an insulating layer disposed between said source and said gate electrode for electrically isolating said source from said gate electrode.

6. (Previously Presented) The semiconductor device structure of claim 1 wherein said at least one semiconducting nanotube is composed of arranged carbon atoms.

7. (Cancelled)

8. (Previously Presented) The semiconductor device structure of claim 1 wherein said at least one semiconducting nanotube is oriented substantially perpendicular to said horizontal plane.

9. (Previously Presented) The semiconductor device structure of claim 1 further comprising:

a plurality of semiconducting nanotubes extending vertically through said gate electrode.

10. (Previously Presented) The semiconductor device structure of claim 1 wherein said gate dielectric is disposed on said at least one semiconducting nanotube.

11-24. (Cancelled)

25. (Currently Amended) A semiconductor device structure, comprising:

a substrate;

an electrically-conductive first plate on said substrate,

an electrically-conductive second plate disposed vertically above said first plate;

an electrically-conductive layer disposed between said first and second plates;

at least one nanotube having an end electrically coupled with said first plate for increasing an effective area of said first plate, said at least one nanotube positioned in said electrically-conductive layer; and

a dielectric layer coating said length of said at least one nanotube such that said at least one nanotube is electrically isolated from said electrically-conductive layer and said second plate.

26. (Original) The semiconductor device structure of claim 25 wherein said at least one nanotube has a conducting molecular structure.

27. (Original) The semiconductor device structure of claim 25 wherein said at least one nanotube has a semiconducting molecular structure.

28. (Previously Presented) The semiconductor device structure of claim 25 wherein said dielectric layer encases said at least one nanotube.

29-33. (Cancelled)